# The Forest at Ashland's Doorstep

## A Study of Visitation to the Ashland Creek Watershed

Jurgen A. Hess

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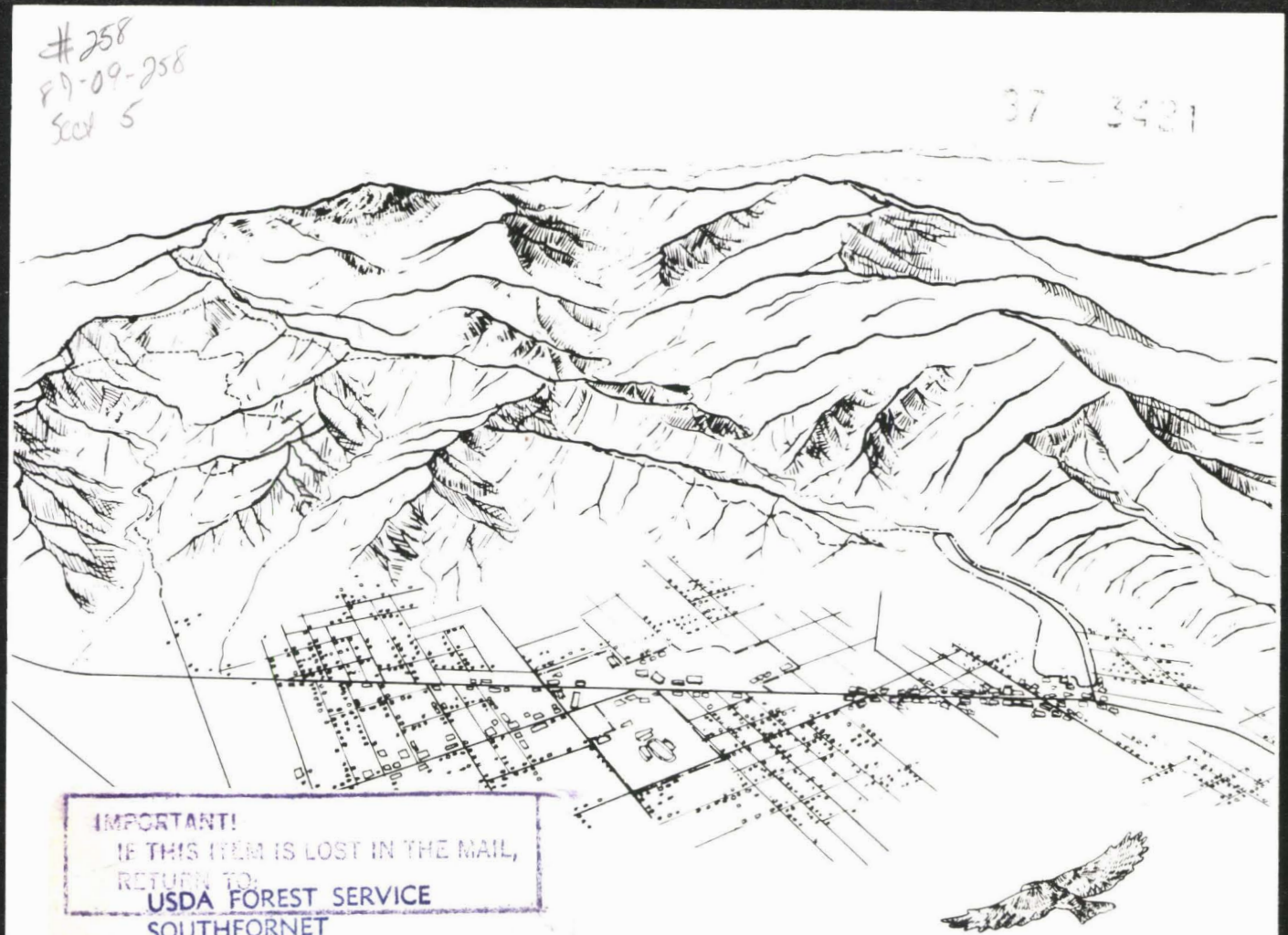

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Clemson University Department of Parks, Recreation and Tourism Management

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Jurgen A. Hess

Clemson Class of 1985

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and Tourism Management
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This paper was prepared as a student project in partial fulfillment of the requirement of the Professional Development for Outdoor Recreation Management Program at Clemson University. It in no way reflects USDA Forest Service policy nor are the opinions expressed those of anyone other than the author.

April 1986

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## Cover Sketch

Aerial view of City of Ashland
with Ashland Creek Watershed
by Gary L. Bartlett

## Abstract

Although municipal watersheds tend to be used primarily for water production, they also frequently serve as a recreation resource to nearby cities. This study collected and analyzed data to determine current and future visitation to the Ashland Creek Watershed, immediately south of Ashland, Oregon. Ashland residents were the subjects for the survey. The Watershed was visited by a significant portion of Ashland residents. Visitation frequency was related to age, sex, retirement status and length of residence in Ashland. Lack of information was the primary deterrent to usage. Based on survey responses, a small to moderate increase in visitation was predicted to occur. Significant increases in use would occur if recreation opportunities were to be increased. Residents were found to have a high level of concern for management of the area. Implications for management of the Watershed are presented. Strategies are recommended for developing understanding and cooperation between different users.

## Acknowledgements

I am grateful to Southern Oregon State College, Ashland, Oregon, and especially Claude W. Curran, Ph. D., Director of the School of Social Science. Without the counsel, assistance, and diligent work of Professor Curran and the Geography Department students, this project would not have been possible.

Many Rogue River National Forest personnel provided critical reviews that were useful in refining this paper. Stylistic improvements were made through the editorial assistance of Jeff LaLande. Jon Skeels was invaluable for his assistance in running the statistical-analysis computer program. Maps and aerial view sketches are by Gary L. Bartlett. Production typing was done by Janet Brockbank. Bar chart illustrations are by Laurel Communications, Medford, OR.

To all of these I give my sincere appreciation.

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# Executive Summary

## Study Purposes

Although municipal watersheds tend to be used primarily for water production, they also frequently serve as a recreation resource. Forest land managers are challenged to make decisions on the appropriate mix of land uses for these areas. Surveys of visitation to these areas can provide specific and relevant information for managers.

The primary purpose of this study was to determine the current and predicted future level of visitation to the Ashland Watershed. The study also describes socio-economic and recreation participation characteristics of visitors and nonvisitors.

## Study Area and the Subjects

The study area was the 14,000-acre Ashland Creek Watershed (in the Rogue River National Forest), which serves as the source of domestic water for the city of Ashland, Oregon. Ashland residents were used as the subjects for the study.

## Procedures

A representative survey was conducted by the Southern Oregon State College (SOSC) Geography Department. A demographic profile was developed for visitors and nonvisitors.

## Highlights of the Findings

Almost three-fourths of the survey respondents indicated they knew where the Ashland Watershed is located. Forty-one percent of those interviewed visit the area.

Most visitors to the Watershed were male, between ages 24 to 44, and had lived in Ashland more than two years. They also were frequent visitors to other types of recreation settings, but were similar to non-visitors in levels of education, income, occupation and student status. A significant number of nonvisitors were retired, 65 years of age or older, and had lived in Ashland less than two years.

Activities most frequently participated in included hiking/walking viewing scenery, and driving for pleasure. A total of 68 percent of the visitors rated the availability of recreation opportunities in the area as "excellent" or "good". "Lack of information" was cited as the primary deterrent to visitation.

Sixteen percent of visitors plan to visit the area more frequently in the future, while 28 percent of current nonvisitors plan to visit the area in the future. Nearly half of the respondents predicted they would visit the area more frequently in the future if there were better access, more trails and more information on the area.

Most of the 36 unsolicited comments centered around two areas; (1) concern for water quality and the environment and (2) keeping the area open for some type of limited use.

## Conclusions

Long-time Ashland residents seem to have a higher level of awareness of the location of the Watershed. The Watershed is visited by a significant portion of Ashland's residents. Visitation to the

Watershed is related to age, sex, retirement status, and the length of time people have lived in Ashland.

Visitation patterns indicate the area fills a need for recreating in a natural forest setting close to the city. Activities with the highest participation are oriented to appreciation of the natural environment.

Despite the fact that most of the respondents indicated they knew the location of the Watershed, the primary reason for not visiting the area was lack of information. Evidently knowledge of the area's location does not necessarily equate with having sufficient information to visit the area.

It is predicted that there will be a small to moderate increase in visitation to the area due to (a) current visitors using the area more frequently, (b) current non-visitors using the area, and (c) Ashland's population growth. Fairly significant increases in visitation are predicted if the area has better access, more trails, and if more information on the area is provided.

Based on the high number of unsolicited comments, there is wide-spread concern for management of the area. A common theme ran through most of the comments; people recognize the area is a fragile place deserving of care and proper stewardship.

**Implications and Recommendations**

Implications and recommendations for for managing the Ashland Watershed include the following:

**Recognition of the Recreation Role.** The primary objective for managing the area is protecting Ashland's water supply. However, the area also plays an important role in providing for Ashland residents' recreation needs.

> **Recommendation:** The Rogue River National Forest Land Management Plan should recognize and address the Watershed's role of providing close-in recreation for Ashland residents.

**Awareness and Information.** There is little readily-available information on the area's environmental sensitivity. Information could guide new visitors in the proper use of the area.

> **Recommendation:** Develop an education program with the objective of increasing visitors' awareness to the environmental sensitivity of the area.

**Future Recreation Use.** The results of the survey predicted visitation will increase even if nothing is done to change the area. Unmanaged use of the area could result in overuse and increased fire risk.

> **Recommendation:** Upon completion of the Forest Land Management Plan, develop a new detailed management plan for the Watershed to include direction for recreation.

**Future Use With Supply Changes.** Increases in recreation supply characteristics (trails, etc.) could stimulate significant increases in visitation. It is likely that many residents would react negatively to any management changes to the area without having had an opportunity to be involved in those changes.

> **Recommendation:** Provide the opportunity for local citizens and agencies to be involved in any decisions dealing with new development or management changes in the area.

**Developing Understanding and Communication.** This study should contribute to an understanding of how the Watershed is used for recreation by the people of Ashland. With an awareness of the study conclusions, managers should be better able to resolve conflicts between different interests.

> **Recommendation:** Forest Service managers should discuss the findings and recommendations from this paper with city of Ashland officials.

> **Recommendation:** Develop a consensus group representing all interests to provide input to the Forest Service for managing the Watershed.

Ashland has a special resource at its back doorstep. The Watershed is a valuable area that has the potential to fill diverse needs. To realize this potential, managers must develop understanding and cooperation between all users.

# Chapter I Introduction

As cities become larger and more densely populated, there is an increasing need for providing close-in undeveloped forest-type natural areas. Forest areas close to cities provide accessible natural settings. These settings offer contrast to the urban environment.

While forests located close to cities have the potential to provide recreation opportunities, they are also frequently used for municipal watershed purposes. Recreational use of municipal watersheds tends to be controversial because of 4he concern for potential conflicts with production of high quality water. Forest land managers are challenged to make decisions on the appropriate mix of land uses.

Good information on public behavior and attitudes is essential for dealing with these issues. Surveys of recreation participation for current and potential users can give relevant and specific information to managers.

## Purposes of the Study

The primary purpose of this study was to determine the current and predicted future level of visitation to the city of Ashland, Oregon, Watershed. Characteristics of both visitors and nonvisitors to the area were to be determined. An analysis was to be done of correlations between (a) current recreation use patterns of visitors and nonvisitors, (b) their length of residency (tenure) in the City of Ashland, (c) knowledge of the Watershed and (d) certain social-economic characteristics.

## Study Boundaries

The study area was basically defined as the Ashland Creek Watershed, immediately south of Ashland, Oregon. The area is on the Ashland Ranger District, Rogue River National Forest. A more detailed description of the area is in Chapter 3. City of Ashland residents were used for the survey.

## Definitions

Bias. "The tendency for some extraneous factor to affect answers to survey questions or the survey results in general, in a systematic way, so that results are 'pushed' or 'pulled' in some specific direction." (Alreck 1985).

Chi-square. A test of statistical significance of the relationship between variables in a cross-tabulation.

Cramers V. A statistical test used for determining the magnitude of crosstabulation relationship. It adjusts Chi-square for the size of the table and sample.

Crosstabulation. Plotting two variables in a matrix format consisting of columns and rows.

Demographic factors. Social-economic characteristics of a population generally including, but not limited to: sex, age, education, income and occupation.

Forced response question. A type of question that forces the respondent to chose from several alternative answers.

Latent demand. "Recreation demand inherent in a population but not reflected in the current use of areas". (Gold 1980).

Nonrespondent. Member of household not agreeing to be interviewed.

Respondent. Member of household agreeing to be interviewed.

Significance level. "The probability that the magnitude of the relationship might result in a sample of that size purely from sampling error if, in fact, it did not exist in the population." (Alreck 1985)

Supply characteristics. Outdoor recreation factors that deal with attributes of the physical resource base, such as land, water, facilities, wildlife and vegetation.

**Basic Assumptions**

Several assumptions were made. It was assumed that visitors to the study area were primarily residents of the city of Ashland. Respondents were assumed to be a knowledgeable source of information of household characteristics and current recreation patterns. It was further assumed that respondents were capable of both recalling specific information and predicting their future recreation behavior. To the extent these assumptions are true, the information supplied by the respondents was valid.

**Limitations**

Limitations of this study are of several types (1) definition of subjects, (2) sample determination and (3) data collection. The first limitation, definition of subjects, involves the geographic boundary of the subjects. As stated previously, it was assumed that most of the use in the study area was by Ashland residents. This assumption was based on discussions with Ashland Ranger District personnel. However, on-site testing to determine users' origin has not been done.

The second type of limitation involves determination of the sample population. Directory telephone number listings were used as a means to obtain household addresses. People excluded from consideration as potential respondents in the survey include those without phones, with unlisted or unpublished phone numbers and those who changed phone numbers in the last year. In a 1973 study (Field) it was estimated that 7 percent of residents in San Francisco and Seattle were without phones. According to Pacific Northwest Bell telephone company (Nelson), non-published and nonlisted phone numbers account for a total of 17 percent of Oregon customers. Bias could result if people not included in the phone directory have potential response characteristic that are different from people listed in the directory.

Data collection limitations involve several factors that could produce bias in the study. Ashland has a high population of retired elderly residents. Because they potentially have more leisure time, elderly people may respond in greater numbers than younger people (Alreck 1985). The survey was conducted during daytime hours. Households with all residents working outside of the home during the day would be under-represented in the study.

When asked by interviewers, not all of the selected respondents desired to participate in the study. Non-respondents may or may not have the same characteristics as respondents. The study outcomes have the potential to be biased to the degree that there are differences in characteristics between respondents and nonrespondents.

For the purpose of this study, respondents were asked to predict their future behavior. Actual future behavior may or may not be the same as these predictions. Labaw (1980) feels there is little evidence that people will radically change their present behavior without a major change in influencing factors. According to Stankey (1974) actual behavior is "the ultimate test of preferences."

# Chapter 2 Literature Review

## Importance of Nearby Recreation Areas

Having recreation opportunites close to home is important for people. The 1977 Nationwide Outdoor Recreation Survey (U.S.D.I. 1979) found that frequency of park use was greater for nearby than for distant parks. Thirty-seven percent of respondents in that study used regional park areas (within 1 hour travel time) more than 10 times annually. Fifty-two percent said regional parks were very important to them. The importance of having park areas close to home was greater for urban residents than for rural residents.

Clark et al. (1982) found that most recreation trips by residents were taken in areas near their communities. They found that there was a "home range" based on type of access and travel time. In another study, Clark et al. (1984) found that users of dispersed recreation settings relatively close to home (within 2 hours) planned to increase their use of these areas.

## Assessment of Recreation Participation and Demand

The U.S. Department of Interior (1979) points out that recreation participation rates are related to demographic components such as income, age, education and sex. Demographic factors help to explain and predict recreation behavior.

However, Driver (1976) explains that recreation behavior is also related to past recreation experience. Given no changes in other factors, people tend to continue current recreation patterns.

Shafer and Moeller (1971) and Knetsch (1975) emphasize the importance of recreation supply variables when assessing recreation demand. Knetsch states that data should be collected in such a way that predictions can be made of use pattern changes given changes in the availability of recreation opportunities. Shafer and Moeller report that use should be related to supply variables such as the distance from the recreation area to the population center and the attractiveness of the environment.

According to Gold (1980), all of the previously discussed factors should be analyzed when determining the demand for site specific recreation. However, Gold also recommends the use of both on-site and home surveys to collect information about social use. He recommends that surveys include both users and nonusers of the area to determine "levels of preference and satisfaction". Surveys can describe both latent demand and actual participation rates. If adequate facilities, access and information are provided, participation can be expected (Knopf, Schreyer 1985).

Gold also notes that participation is influenced by potential users' awareness of recreation opportunities. Information about an area, or lack thereof, can directly affect the amount of use an area receives.

Market research efforts have provided much experience in the design and interpretation of personal interview surveys. According to McCarthy and Perreault (1984), market research provides answers to questions of who are the buyers and who are the non-buyers. Buyers can be considered analogous to users of recreation services. It is just as important to know why people are not interested in a product or service as to why they are.

## Chapter 3 The Study Area

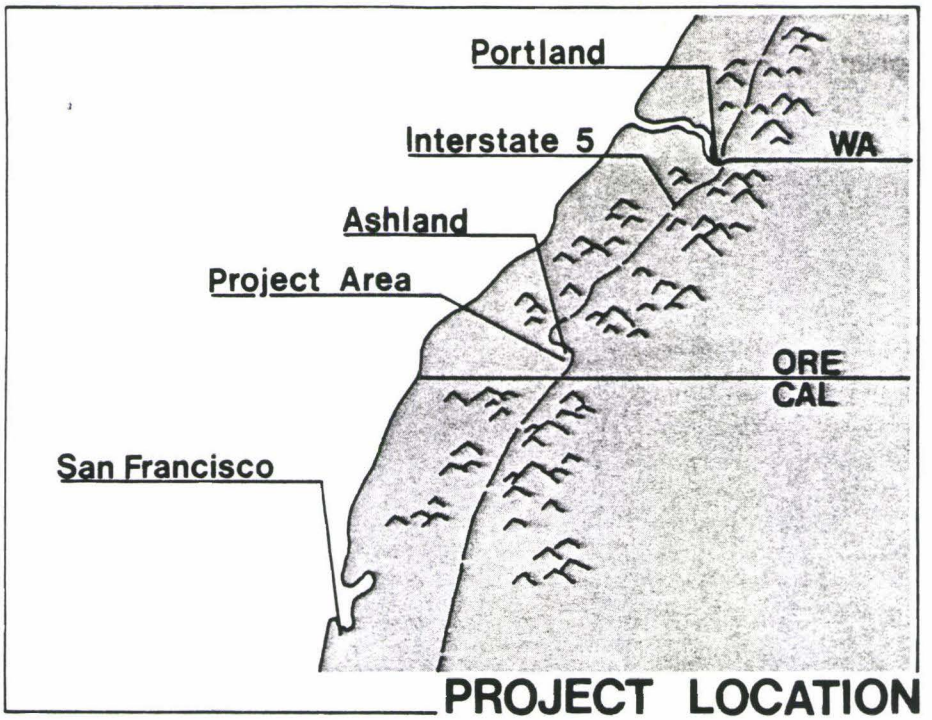
"All the forest's a stage": the Watershed, a scenic backdrop for Ashland, home of renowned Shakespearean Theatre.

The study area is in Jackson County in southwestern Oregon. It comprises most of the upper watershed of Ashland Creek. The area lies adjacent to the south city limits of Ashland (Figures 1 and 2). It includes approximately 14,000 acres, all of which are within the Rogue River National Forest except 406 acres which are owned by the City of Ashland. The area is administered by the Ashland Ranger District.

Elevations range from 2,400 feet to 7,533 feet at the summit of Mt. Ashland. 1/ The area is characterized by steep mountainous topography. The sandy soils derived from granitic bedrock are unstable and easily erodable and cause significant problems to road maintenance and water quality.

Vegetation consists principally of coniferous forests. The overall visual character is a natural appearing forest landscape providing contrast to the adjacent urban area of Ashland. The area provides a scenic forested backdrop for the City (above photo). Summers tend to be very hot and dry with winters being cool and moist. Upper elevation areas receive a considerable amount of snow.

1/ Mt. Ashland Ski Area was excluded from the study area for the following reasons: The ski area generates a very high number of users who have a "developed site" orientation as opposed to having a dispersed recreation orientation. The ski area serves a much larger area than City of Ashland and has an access route external to the Watershed. It was felt that inclusion of the ski area would significantly skew the study results.



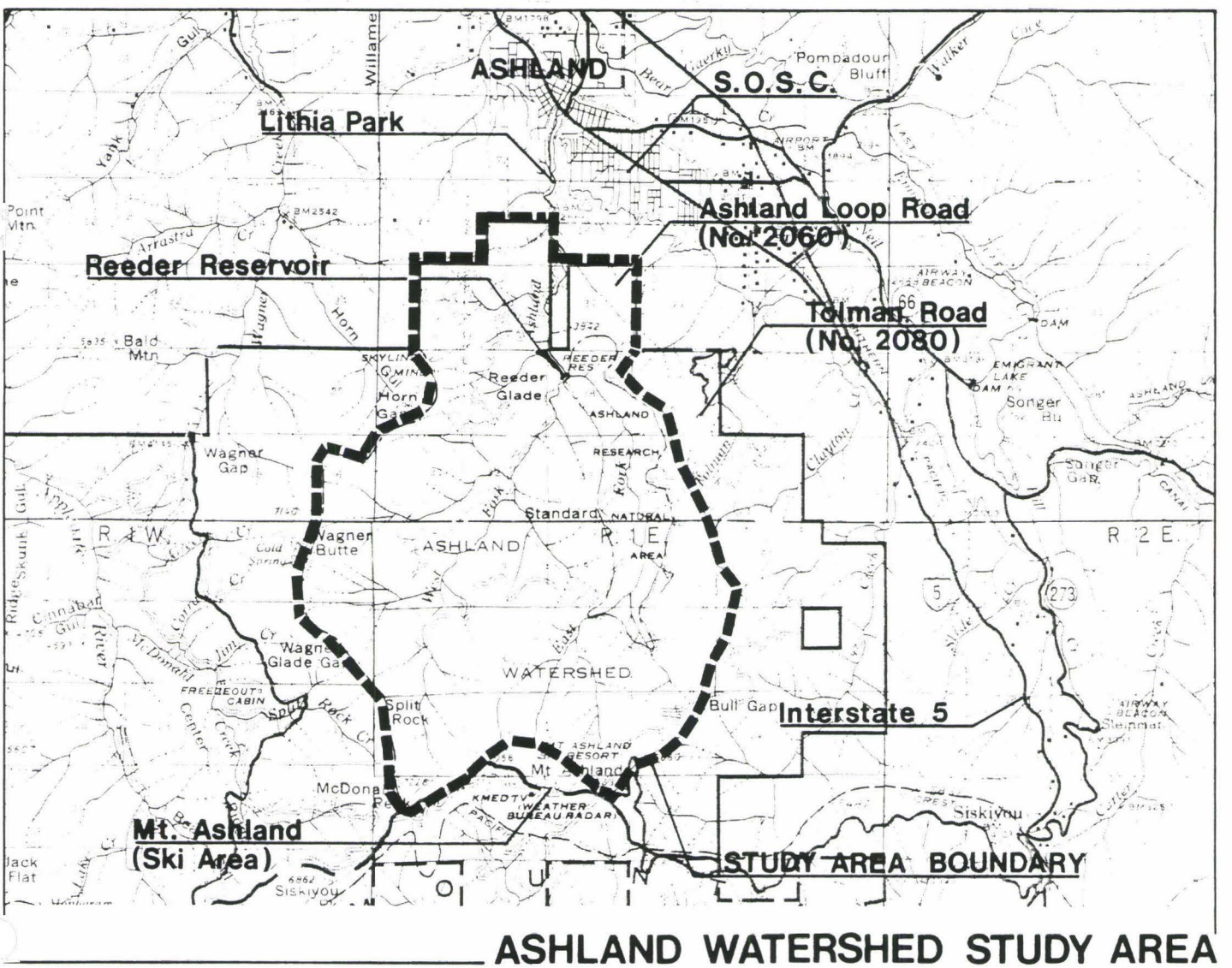




Figure 1. Project Location and Study Area

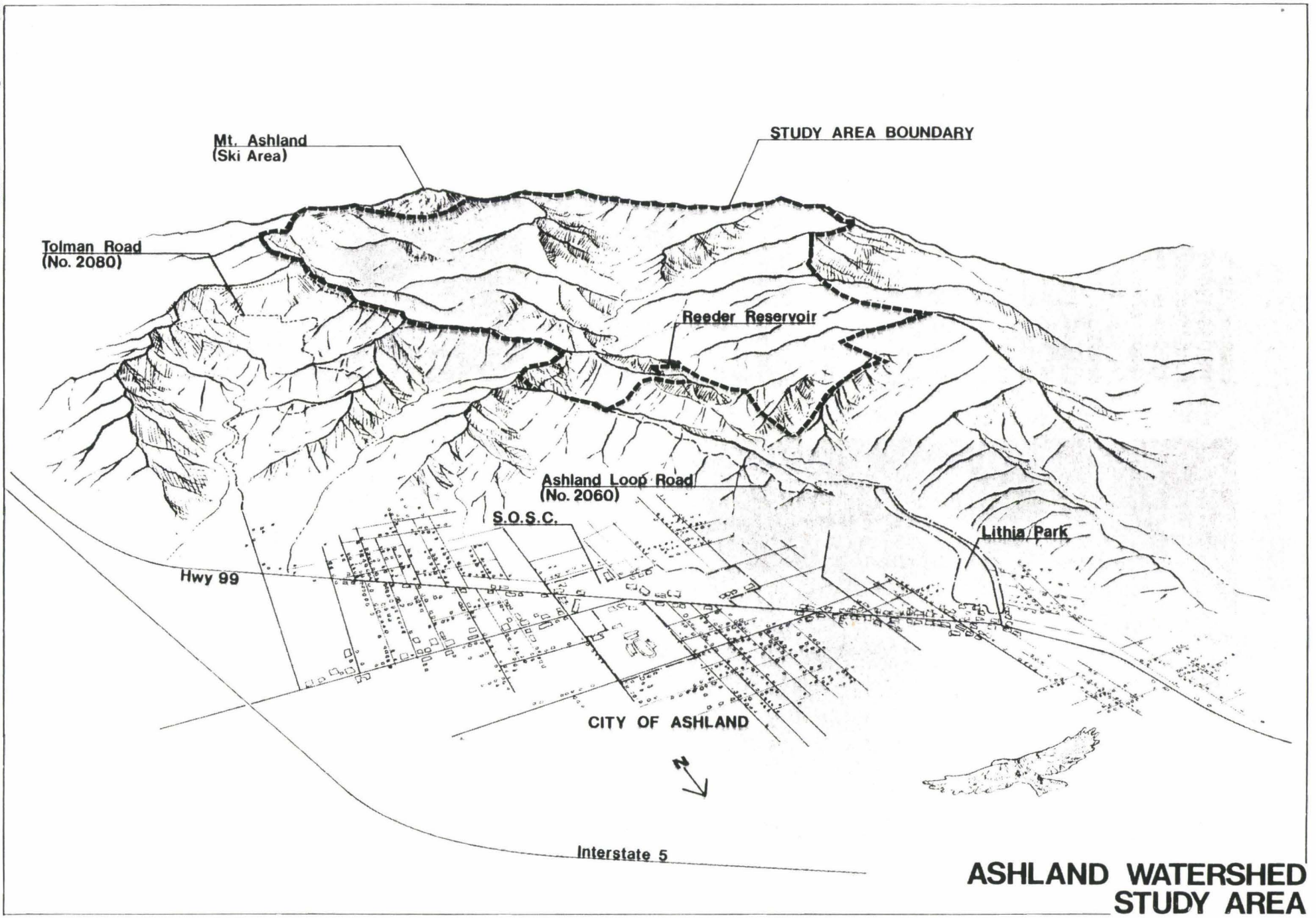
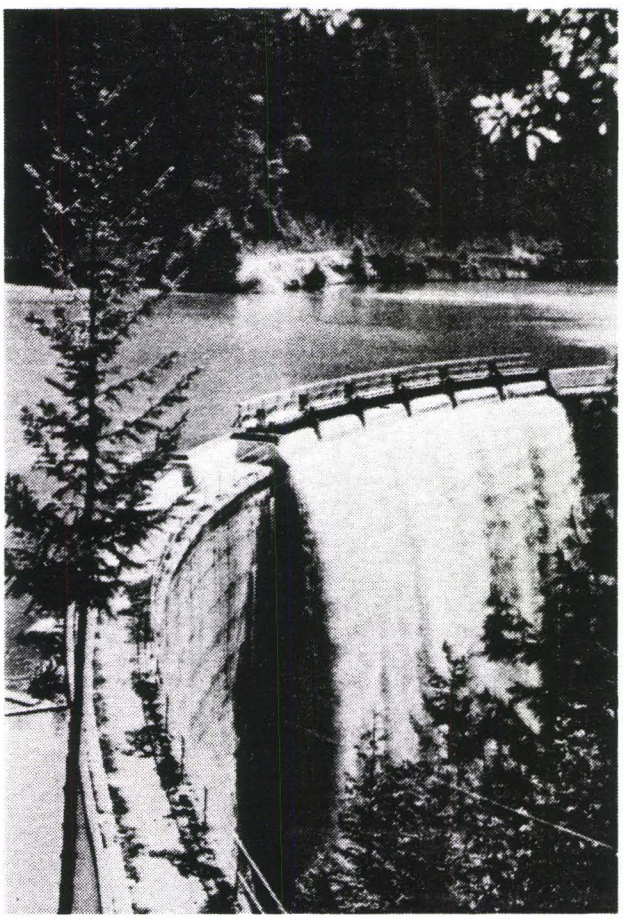



Figure 2. Aerial View



Reeder Reservoir; closed to public use.

The city of Ashland uses the Watershed as the source of domestic water for its residents. In 1929 a cooperative agreement between the city and the U.S. Department of Agriculture established management priority "for the purpose of conserving and protecting the water supply of the said City" (U.S.D.A. 1929).

A 1979 plan, Interim Plan-Ashland Creek Watershed (U.S.D.A. 1979), provides current direction. This plan states that, "Water production is the key use for Ashland Creek Watershed." The city's water supply is stored in Reeder Reservoir, a 22-acre impoundment within the study area. Public use of Reeder Reservoir is not permitted by the City.

Logging in the study area during the 1950's-1960's developed most of the road system, however, since the late 1960's no scheduled timber harvest has taken place in the area. Some minor logging has been done to develop fuel breaks. Livestock grazing is not permitted in the Watershed. The 1,408-acre Ashland Research Natural Area is in the study area. This tract was established in 1970 for purposes of research and education.

Recreation access to the area is primarily on narrow and winding roads. There are a total of 43.5 miles of road in the study area suitable for vehicular travel. However, only 13.6 miles are maintained for use by automobiles.

There are several road access points to the area from the city. The principal access is Road 2060, an extension of the street running through Lithia Park (Figure 1). Another access route is from the Tolman Creek area, on Roads 2080 and 2080600. This route connects to Road 2060 at "Four-Corners" junction to make a popular loop system. This loop system is generally kept open, except when impassable due to snow.

Narrow, winding Road 2060.

Vehicle access is controlled by a system of gates.

Access is strictly controlled by the City and the Forest Service. Most roads are closed during winter and during high fire risk periods.

There are no developed recreation sites and very few trails within the study area. However, numerous informal trails provide access to the Watershed from adjacent subdivisions, especially in the Tolman Creek area. The only maintained Forest Service trail is a one mile self guided nature trail. A well used trail connects the nature trail parking area to Reeder Reservoir. This trail was created by users. A jogging and hiker's path locally known as the "Toothpick Trail", is on an old mining ditch berm.

"Toothpick Trail".

Discussions with Ashland District field personnel, (daLuz), indicate that overall recreation use in the area is relatively light to moderate. The Watershed is closed to camping, consequently recreationists are generally day-users. Recreation use tends to concentrate along Road 2060. The nature trail parking area averages 6 to 8 cars on a summer weekend with an occasional peak of 10 to 12 cars. Besides using the developed nature trail, people tend to disperse on several primitive trails from this parking lot.

Signs give information on travel restrictions.

The roads in the area have historically been a popular place for motorcycling. More recently, running or jogging on roads and trails in the area has become very popular. A new type of recreation pursuit in the area has been the use of mountain bikes on roads and trails.

Seasonally closed roads provide temporary trailheads.

Southern Oregon State College (S.O.S.C.) utilizes the area for educational field trips. The Biology and Geography Departments make regular visits to the area with students.

As visitation to the Watershed has increased, concern for fire prevention has also risen. Other management concerns related to use of the area include: (a) soil erosion caused by motorcycles, (b) vandalism to signs and (c) water pollution.

# Chapter 4 Procedures

The procedures used for the study are presented in this Chapter. Four aspects are described: (1) the subjects, (2) questionnaire development, (3) data collection and (4) data treatment. The procedures were developed to assess the level of current and future recreation use in the Ashland Watershed. Methods were also designed to gather certain information on visitors and nonvisitors of the area.

## The Subjects

As described in Chapter 1, this study focused on residents of the City of Ashland because it was assumed that recreationists in the Watershed were primarily local residents. Information was desired from both visitors and nonvisitors to the Watershed. Therefore, the target population for the study included all residents because they were all potential visitors.

Households were used as a population for the study. In 1980, the city of Ashland had 14,943 people residing in 5,995 households (Bureau of the Census 1983).

A sample population of 228 households was selected through a random sampling process. Phone numbers were used to get household addresses. Phone numbers were selected at random from Cole's Directory (Cole 1985). Both 482 and 488 Ashland exchange numbers were used. Phone numbers are listed in numerical order in the directory. Every 22nd listing was selected to obtain the required sample size total. Obvious non-residential listings were passed over. Cole's Directory also listed addresses corresponding to the phone numbers. Selected household addresses were plotted according to six sectors of the city. Geographic stratification was checked to ensure equal representation by all areas of the city.

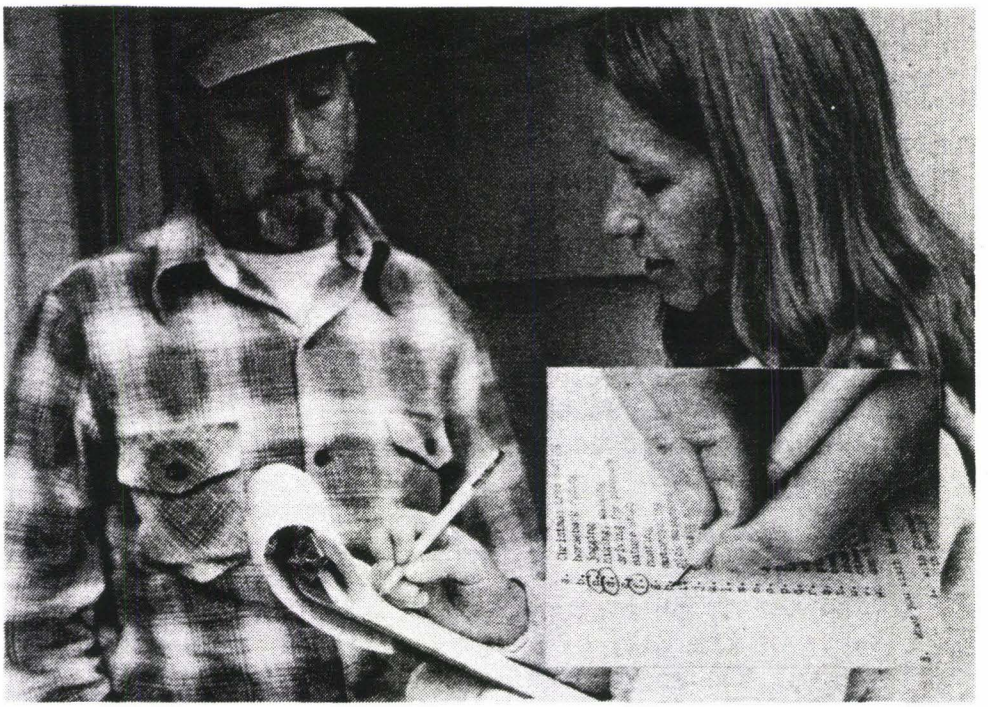
## Questionnaire Development

A four page questionnaire was designed to collect information on current recreation patterns, demographic characteristics and future recreation behavior. Response was requested to 20 questions.

The questionnaire was developed to be used with a personal interview. Personal interviews offer the advantages of credibility, high return rate and the ability to use graphic material (Gold 1980). The questionnaire was designed to be administered within a 12 to 15 minute period. Two maps showing the Ashland Watershed and its location were used by the interviewer to orient the respondent. These maps are shown in this paper as Figures 1 and 2.

"Forced response" (as opposed to open-ended) questions were used. Forced response questions use predetermined response categories and offer the advantage of ease of coding and tabulation of results (Orlich 1978). Determining possible answers required consultation with field people familiar with the study area.

The questionnaire was reviewed by Claude Curran, Professor of Geography-Southern Oregon State College; Jim Hays, Rogue River National Forest Operations Research Analyst and Ronald Waitt, Ashland District Ranger. A pilot survey was done which pointed out changes to be made in the questionnaire. The activity list for Question (Q.) 7 was expanded, the definition for Q.3 "Recreation Areas" was shortened, Q.18 (occupation) was defined as the "type" of work, and interviewer instructions were clarified. The questionnaire is included in the Appendix.



"Are you retired? Yes __ No ✓", a respondent answers.

**Collection of Data**

Data collection was done by Southern Oregon State College (SOSC) Geography Department students with interview training and on-going direction provided by Claude Curran, Professor of Geography. An introductory credential letter, maps of the city, and the household address list were provided to each interviewer.

Of the total sample of 228 households, 194 (85 percent) had people that agreed to become respondents for the survey. No attempt was made to do a follow-up survey of people declining to participate. If the respondent was not home, students were instructed to go next door, alternatively selecting the house to the left or right.

Interviewing was done during morning, afternoon, and early evening hours on weekdays from December 13, 1985, to January 18, 1986, and February 3, 1986, to February 12, 1986. The interview generally lasted 15 minutes. However, some respondents were very interested in the study and talked with the interviewer for up to 45 minutes. Several respondents asked for a copy of the report to be mailed to them.

**Treatment of Data**

Completed questionnaires were numbered and checked for errors. Responses to Q.18 regarding occupation were categorized according to the Dictionary of Occupational Titles (U.S. Department of Labor 1977). This resulted in nine categories.

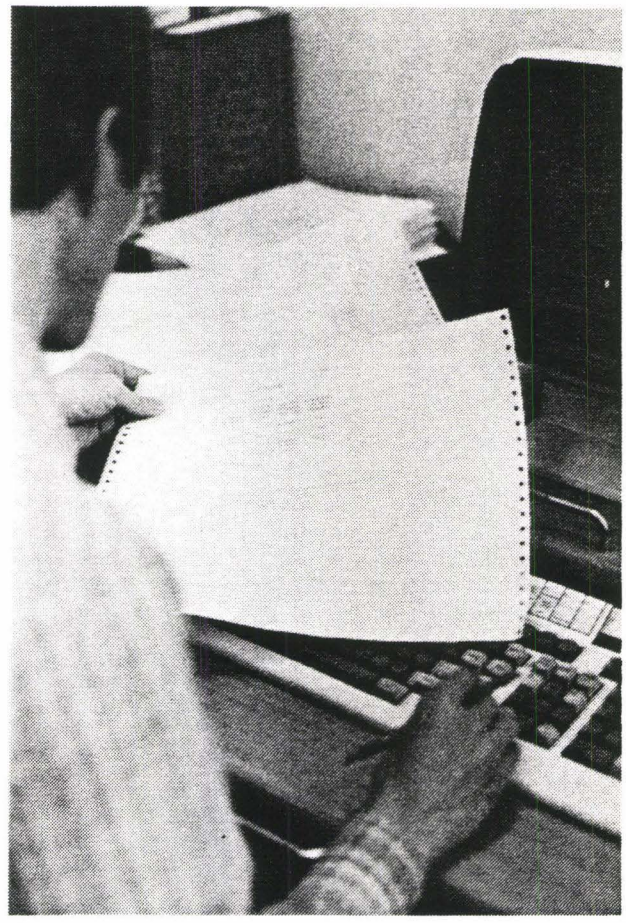
These categories were clustered to fit the six standard occupational groups used by the Bureau of the Census (1983).

Since Q.8 involved multiple responses, answers were recoded to fit all possible combinations. Categorization of answers resulted in the following codes:

a. Friends
b. Family
c. Alone
d. Friends and family
e. Friends and alone
f. Family and alone
g. Friends, family and alone

The data were analyzed through the use of the SPSS-Version H computer program (SPSS Statistical Package For The Social Sciences; Nie et al. 1975). All letter response codes were electronically recoded to become integers. A "Don't know" response for questions listing that answer was coded separately from "No response." Frequency tables, listing number of respondents and percentages were developed for each question.

Crosstabulations were calculated with the SPSS program to analyze relationsips between responses from various questions. A statistical analysis was computed to determine the significance and strength of the relationship between the independent and dependent variables. The analysis included chi-square and Cramers V statistics.



Computer assisted analysis.

# Chapter 5 Analysis of Data

This chapter presents the results of the survey. The findings include respondents' demographic characteristics, description of visitors, nonvisitors, use of the area and deterrents to usage. Predictions of future visitation behavior are also reported. A complete tabulation of all answers to the questionnaire is in the Appendix.

## Survey Sample Characteristics

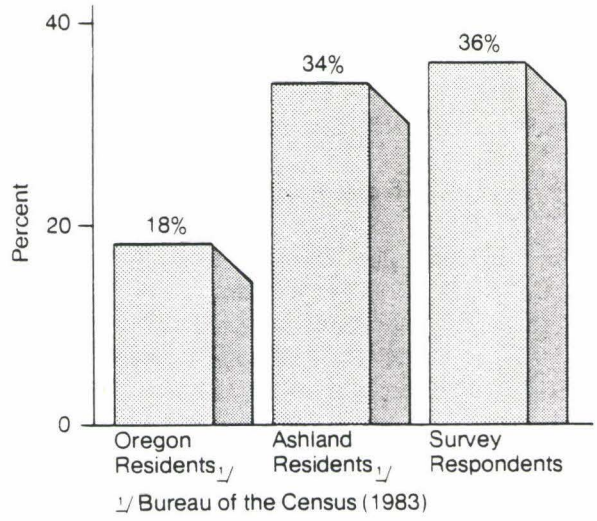
The survey procedure was designed to obtain a sample that was representative of residents of Ashland. Bureau of the Census (1983) statistics were used to check representativeness of respondents' demographic data. Overall, respondent's characteristics in terms of sex, income, occupation, education and student status were similar to Census findings for Ashland residents in general. A detailed demographic profile is presented in Table 5, p. 28.

Findings for age represent survey respondents only. Interviewers were instructed to talk to either the head of the household or someone knowledgeable of household recreation behavior. Consequently the survey findings for age characteristics are not directly comparable to Census data for the population at large.

Survey respondents had a high level of education with 36 percent having completed four or more years of college. The 1980 Census found that 34 percent of Ashland residents had four or more years of college compared to 18 percent for State of Oregon residents.

Since Southern Oregon State College is in Ashland, these high levels of educational attainment were not unexpected. College education levels for Oregon and Ashland residents are shown in Figure 3.

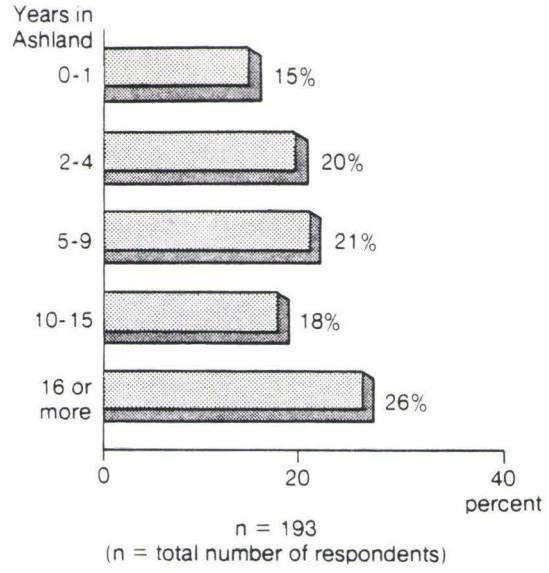
**Figure 3. Percent of Residents With 4 or More Years of College**




Respondents' occupations fit the profile of Ashland residents reported by Hays (1982). Forty-eight percent of the respondents had occupations in the "Professional Managerial Technical" category. Of the people in the survey, 18 percent were students and 22 percent were retirees.

Tenure in Ashland also corresponded with findings by Hays (1982). While 15 percent of those interviewed had only lived in Ashland for less than two years, 26 percent had lived there for 16 years or longer. Figure 4 displays tenure of respondents in Ashland.

**Figure 4. Respondents' Tenure in Ashland**




## Are People Aware of the Area?

In response to the question, "Do you know where the Ashland Watershed area is?", almost three-fourths (74 percent) of the persons interviewed answered "yes". Awareness of the area's location was directly related to the length of time people had lived in Ashland.

Of the people who knew where the Ashland Watershed was located, only 6 percent had lived in Ashland less than two years. However, 40 percent of the people who did not know where the Watershed was located had lived in Ashland less than two years. The relationship of awareness of the Watershed to tenure in Ashland is displayed in Figure 5.

## Visitation Level

To what degree do people visit the study area? According to results of the interviews, 41 percent of the respondents had visited the Ashland Watershed.

## Who Visits and Doesn't Visit the Area?

Visitors and nonvisitors had similar characteristics in terms of education levels and occupation. However, there were significant differences between the two groups in sex, age and retirement status.

**Figure 5. Awareness of Ashland Watershed by Tenure in Ashland**

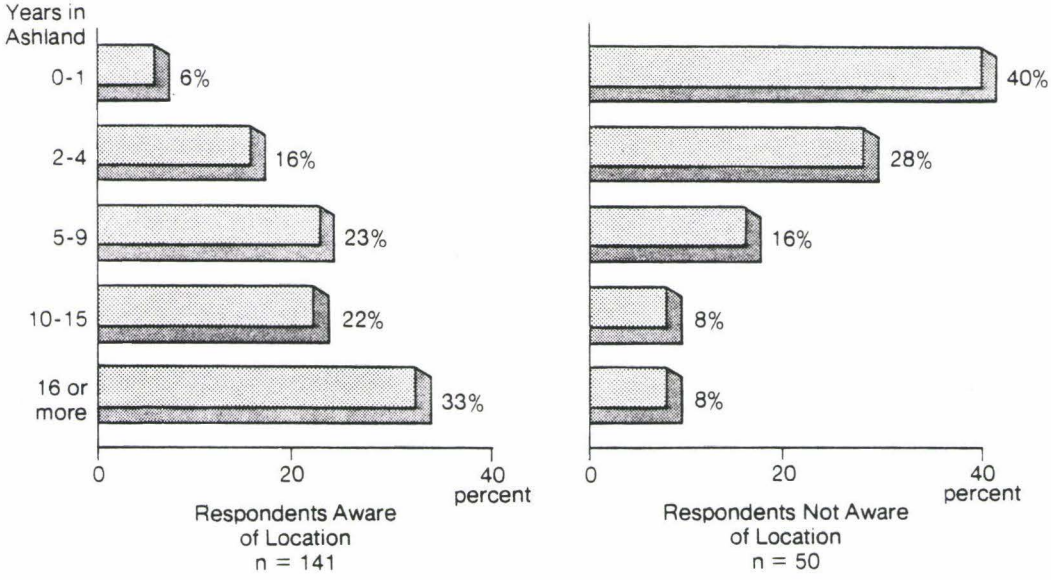
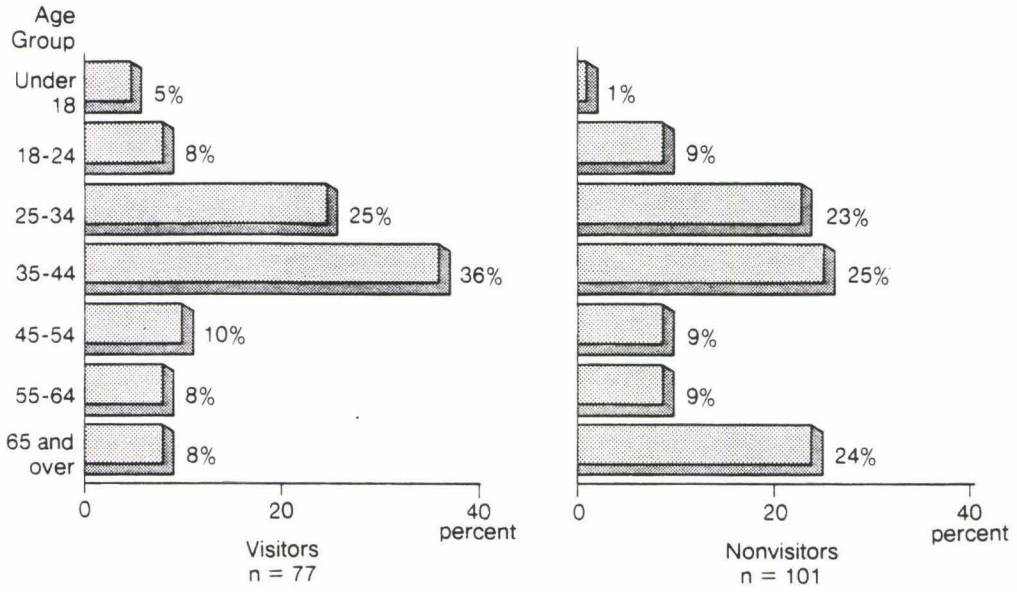


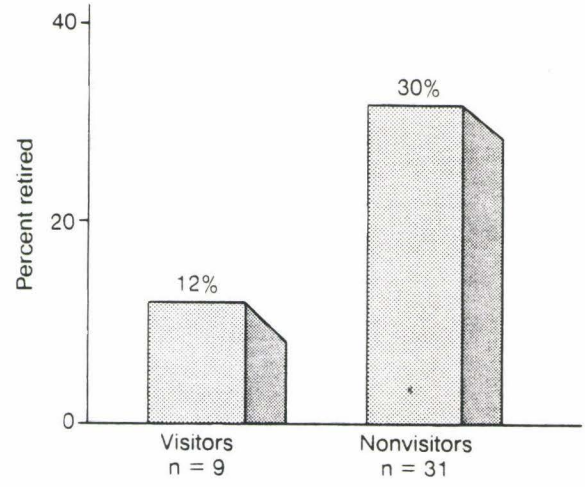
**Figure 6. Visitors and Nonvisitors by Age Group**




A higher proportion of visitors were male (61 percent) compared to nonvisitors, who were equally divided between males and females. There was little correlation between respondents' student/nonstudent status and their visitation patterns. Table 5 p. 28 presents demographic information for visitors and nonvisitors.

A total of 61 percent of visitors were in the 25 to 44 year age group while 24 percent of non-visitors were 65 years of age or older (Figure 6). Retirees were over-represented in the group that did not visit the area. Thirty percent of nonvisitors were retired compared to 12 percent of visitors (Figure 7). The results of this survey are consistent with the 1977 Nationwide Outdoor Recreation Plan (U.S.D.I. 1979) that found outdoor recreation participation is negatively correlated with age.

**Figure 7. Percent of Visitors and Nonvisitors that are Retired**



As with the "awareness" factor, visitation patterns were related to the length of time respondents had lived in Ashland. Ninety-seven percent of visitors to the area lived in Ashland more than two years. Conversely, only 3 percent of visitors were newcomers to Ashland who had lived there less than two years.

Nonvisitors were heavily weighted to both extremes of the tenure scale. While 20 percent of the nonvisitors lived in Ashland less than two years, 32 percent had lived there for 16 or more years. Figure 8 displays tenure in Ashland for visitors and nonvisitors.

Results from the survey showed a significant relationship between visitation to the study area and visitation to other recreation settings. Persons interviewed were asked how often they visited the following types of areas:

- Urban Areas: park, playground, sports field, private facility
- Roaded Nonurban Areas: forest, mountains, lakes, rivers, rural
- Wilderness Roadless: backcountry areas

Visitors to the study area also frequented the three different types of areas more often than nonstudy area visitors. Recreation setting visition is displayed in Table 1.

**Figure 8. Percent of Visitors and Nonvisitors by Tenure in Ashland.**

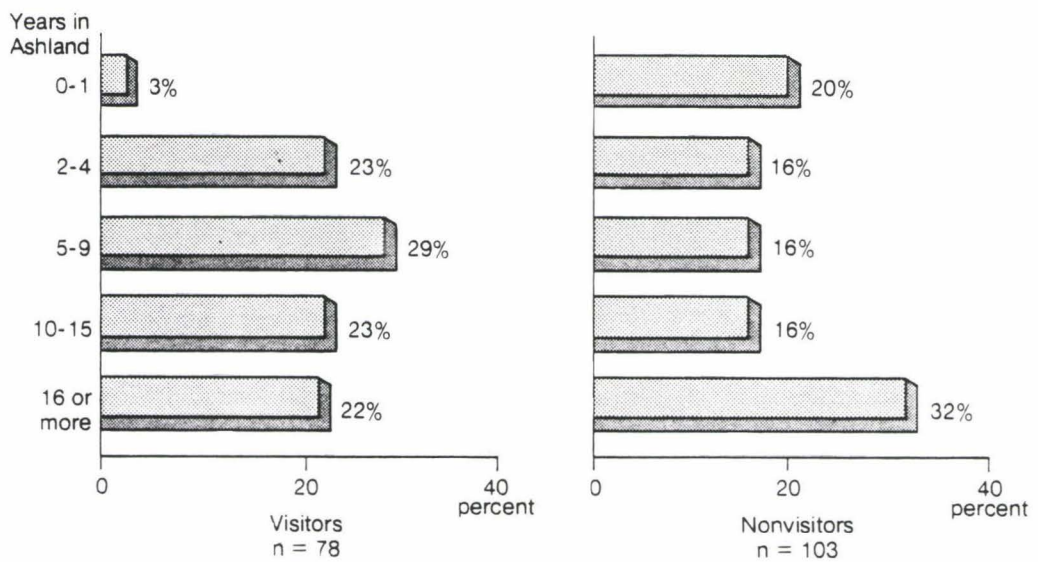


**Table 1. Recreation Setting Visitation per Last 12 Months**

| Number of Visits By Type of Area | Study Area Visitors % | Study Area Nonvisitors % |
|---|---|---|
| Urban Parks | | |
| None | 5 | 13 |
| 1-2 | 10 | 11 |
| 3-10 | 20 | 31 |
| 11 or more | 65 | 45 |
| | n=79 | n=103 |
| Roaded Nonurban | | |
| None | 5 | 32 |
| 1-2 | 8 | 15 |
| 3-10 | 44 | 26 |
| 11 or more | 43 | 27 |
| | n=79 | n=102 |
| Wilderness, Roadless | | |
| None | 43 | 70 |
| 1-2 | 29 | 13 |
| 3-10 | 20 | 10 |
| 11 or more | 8 | 7 |
| | n=79 | n=101 |

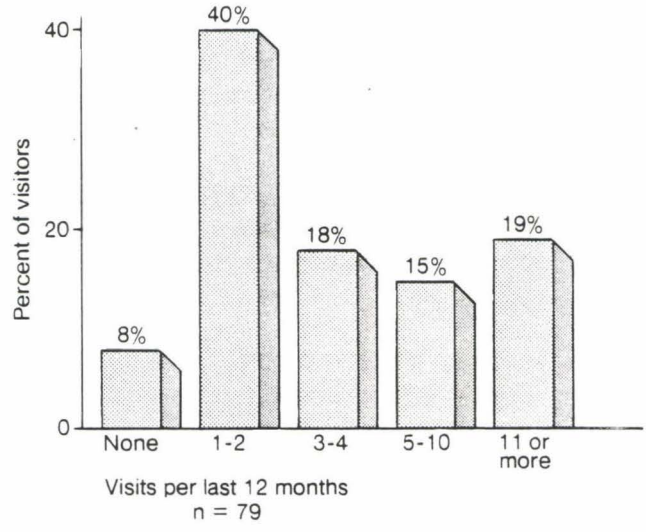
(n = number of responses)

**How is the Area Used?**

While 40 percent of the respondents visited the area one to two times in the last 12 months, 19 percent went there 11 or more times (Figure 9). From field observations and discussions with Ashland Ranger District personnel, it was noted that the area is used more heavily on weekends than weekdays.

Respondents who visited the area participated in a wide range of activities. Hiking, walking, viewing scenery, and driving for pleasure were the most popular activities. Activities with the highest percentage of participation tended to be oriented to appreciation of the natural environment.

**Figure 9. Percent of Visitors by Visitation Frequency**



Mountain biking; climbing in popularity.

Participation in activities was similar to findings for day users of roaded forest areas in a study by Clark et al.(1984). Responses to Question 7, which deals with participation in activities, are reported in Table 2. While the question provided no information as to restrictions for the area, activities such as camping and Christmas tree cutting are prohibited.

Information was collected as to the type of social group respondents associated themselves with when visiting the area. The most common social group was the family (32 percent), followed by friends (25 percent) and a combination of friends and family (15 percent). Together these groups made up almost three-quarters (72 percent) of the types of use in the area. People who only visited the area alone accounted for 13 percent of the visitors. The predominance of the social groups, especially families, correlates with findings by Field (1973). Visitation by social group is illustrated in Table 3.

**Table 2. Participation in Recreation Activities**

| Activity | % |
|---|---|
| Hiking, walking | 62 |
| View scenery | 52 |
| Driving for pleasure | 51 |
| Picnic | 32 |
| Nature study | 30 |
| Play in snow | 27 |
| Cross-country skiing or snowshoe | 19 |
| Jogging | 18 |
| Christmas-tree cutting | 18 |
| Show area to visitors | 18 |
| Pick mushrooms or berries | 13 |
| Collect firewood | 8 |
| Mountain biking | 6 |
| Four-wheel driving off-road | 6 |
| Camp | 6 |
| Target shoot | 5 |
| Motorcycling | 5 |
| Fishing | 4 |
| Horseback riding | 3 |
| Drink alcoholic beverage | 1 |
| Sex | 1 |

n=79

**Table 3. Visitation by Social Group**

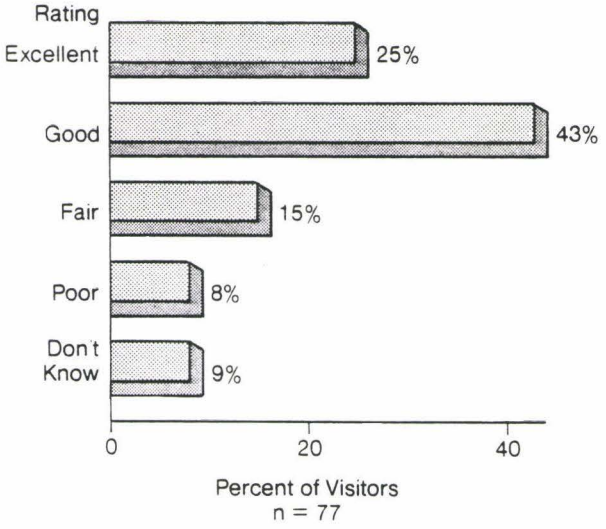
| Social Group | % of Visitors | |
|---|---|---|
| Family | 32 | |
| Friends | 25 | 72 |
| Friends and Family | 15 | |
| Alone | | 13 |
| Friends, Family and Alone | | 9 |
| Friends and Alone | | 5 |
| Family and Alone | | 1 |

n=78

## Rating of Recreation Opportunities

Respondents who had visited the area were asked to "rate the availability of outdoor recreation opportunities in the Ashland Watershed". Results indicated that the majority of the visitors rated the area's availability of opportunities very high. Twenty-five percent gave a rating of "excellent" and 43 percent gave a rating of "good". A crosstabulation analysis of frequency of visition to rating of recreation opportunities indicated no significant relationship existed. Figure 10 shows the ratings.

**Figure 10. Rating of Availability of Recreation Opportunities**




## Why Don't People Visit the Area?

Deterrents to visitation covered a wide range of reasons. The most frequently cited reason was lack of information (40 percent). Other principal reasons were lack of time (17 percent) and preferences for other areas (17 percent).

Several reasons cited for non-visitation dealt with restrictions on use of the area. Sixteen percent of the nonvisitors felt the public was not permitted in the area and 7 percent cited the area as being closed. "Too many people in the area" was cited by only 1 percent of the nonvisitors. Table 4 lists reasons why people have not visited the area.

Crosstabulation analysis illustrated a strong relationship between non-visitors to the area and awareness of the location of the area (Table C8, App. C). The results of that analysis correlated with the finding that lack of information was the principal reason cited for not visiting the area.

**Table 4. Reasons For Not Visiting the Area** 1/

| Reasons | % |
|---|---|
| Lack of information | 40 |
| Lack of time | 17 |
| Rather go to other areas | 17 |
| Thought public wasn't permitted in the area | 16 |
| Personal health reasons | 11 |
| Don't know | 9 |
| The area is closed | 7 |
| Lack of transportation | 4 |
| Concern for water quality | 3 |
| Don't like the outdoors | 2 |
| The area is too far away | 1 |
| Too many people | 1 |

n=103

1/ Cited by nonvisitors

## Future Visitation

Visitors and nonvisitors were asked to state their future plans for visiting the area. Seventy-five percent of the visitors indicated they would visit the area "about the same as presently". Sixteen percent plan on visiting the area more in the future than in the past. Nine percent plan to visit the area less in the future (Figure 11). Twenty-eight percent of non-visitors indicated they plan on visiting the area in the future, while 45 percent did not plan on visiting the area (Figure 12).

**Figure 11. Future Use of the Area by Visitors**

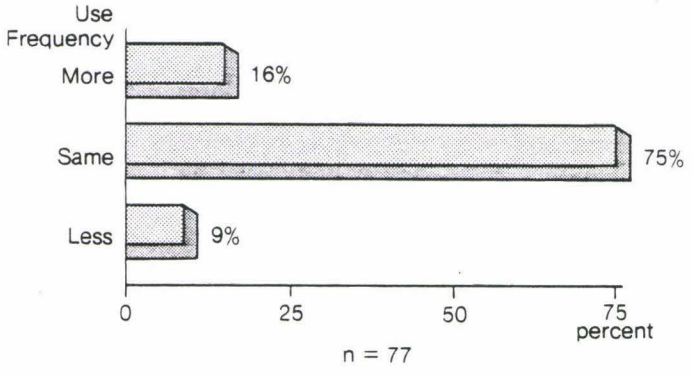
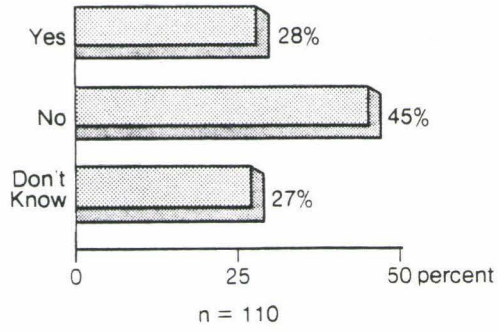



**Figure 12. Future Use of the Area by Nonvisitors 1/**

"Plan to Visit the Study Area?" (Q.12)

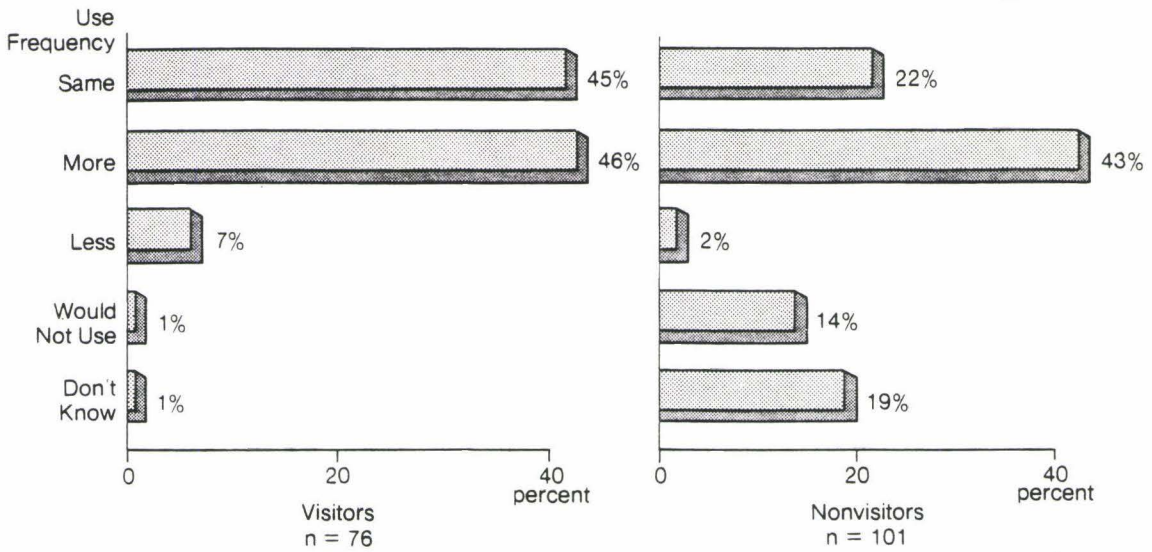



1/ Includes respondents answering "don't know" to Q.5 regarding visitation to the study area.

## Future Visition With Changes in Supply Characteristics

Would increases in "recreational supply characteristics" result in more people visiting the area? Respondents were asked to indicate their future visitation plans if the area had better access, more trails and there was more information on the area available to users. Results were categorized by current visitors and nonvisitors. Forty-six percent of visitors and 43 percent of nonvisitors indicated they would use the area more frequently. Fourteen percent of the non-visitors stated they still would not use the area. Seven percent of the current visitors would use the area less frequently if the changes were to occur. Figure 13 illustrates future visition with changes in supply characteristics.

**Figure 13. Future Use With Changes in Supply Characteristics** 1/




1/ Changes included "better access and more trails, and there was more information on the area" (Q.13)

## Unsolicited Comments

Thirty-six respondents, 19 percent of the total, offered unsolicited comments to the interviewers. Most of the comments dealt with feelings about management practices in the study area. Sixteen people recommended some form of closure or restrictions for the area. Respondents most often cited concern for water quality and the environment as reasons for the proposed restrictions.

Fourteen people recommended the area be kept open for some type of recreation or education use. Most of the uses people suggested were low intensity-type activities such as hiking and nature education. Several people had mixed feelings; they wanted some type of recreation to be permitted, yet they were very concerned that some people might abuse the area.

**Table 5. Survey Respondent Demographic Profile**

| | Total Respondents | Study Area Visitors | Study Area Nonvisitors |
|---|---|---|---|
| Sex | % | % | % |
| Male | 53 | 61 | 50 |
| Female | 47 | 39 | 50 |
| | n=194 | n=75 | n=98 |
| Age | | | |
| Under 18 years | 3 | 5 | 1 |
| 18-24 | 8 | 8 | 9 |
| 25-34 | 26 | 25 | 23 |
| 35-44 | 29 | 36 | 25 |
| 45-54 | 10 | 10 | 9 |
| 55-64 | 8 | 8 | 9 |
| 65 and over | 16 | 8 | 24 |
| | n=189 | n=77 | n=101 |
| Income ($) | | | |
| Under 9,999 | 27 | 24 | 26 |
| 10,000-14,999 | 14 | 9 | 17 |
| 15,000-24,999 | 28 | 32 | 26 |
| 25,000-49,999 | 25 | 30 | 23 |
| 50,000 or more | 6 | 5 | 8 |
| | n=147 | n=63 | n=74 |
| Education (completed) | | | |
| Junior High | 6 | 2 | 8 |
| High School | 16 | 14 | 15 |
| Tech/Voca. | 5 | 5 | 6 |
| Some College | 37 | 41 | 34 |
| College | 36 | 38 | 37 |
| | n=190 | n=79 | n=100 |
| Occupation | | | |
| Profess./Mgr. | 48 | 48 | 50 |
| Sales/Clerical | 19 | 20 | 18 |
| Service | 16 | 16 | 15 |
| Other | 17 | 16 | 17 |
| | n=128 | n=64 | n=60 |
| College Students | | | |
| | 18 | 20 | 16 |
| | n=35 | n=16 | n=16 |
| Retirees | | | |
| | 22 | 12 | 30 |
| | n=41 | n=9 | n=31 |

# Chapter 6 Summary and Conclusions

The purpose of this study was to determine the current and future level of recreation use in the Ashland Watershed. The study examined the characteristics of both visitors and nonvisitors to the area. This final chapter presents the following items:

- Summary of Procedures
- Highlights of the Findings
- Conclusions
- Implications and Recommendations

## Summary of Procedures

The study area was defined as the Ashland Creek Watershed, exclusive of the Mt. Ashland ski area. City of Ashland residents were the subjects for the study. A representative sample survey utilizing personal interviews with questionnaires was conducted. The survey data were analyzed through the use of the SPSS computer program. Statistical results were analyzed to describe characteristics and relationships of study area visitors and nonvisitors.

## Highlights of the Findings

**Awareness of the Area.** Almost three-fourths (74 percent) of the respondents indicated they knew where the Ashland Watershed was located.

**Level of Current Use.** Forty-one percent of those interviewed visit the area.

**Visitors.** Visitors had the following characteristics:

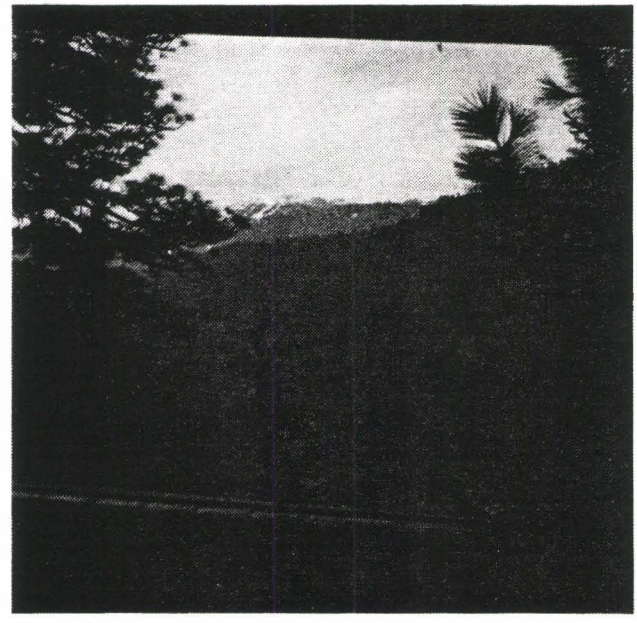
- 61 percent male
- 61 percent were 24 to 44 years old
- 97 percent had lived in Ashland more than two years
- high visitation frequencies to urban roaded forest and wilderness recreation settings
- similar to nonvisitors in levels of education, income, occupation and student status.

**Nonvisitors.** Characteristics unique to nonvisitors included:

- 30 percent were retired
- 24 percent were 65 years of age or older
- 20 percent lived in Ashland less than two years
- 32 percent lived for 16 years or more in Ashland

**Patterns of Visitation.** While 40 percent of the visitors frequented the area one to two times in the last 12 months, 19 percent went there 11 or more times. Most of the recreation use occurs on weekends. Activities participated in most frequently include:

- hiking, walking (62%)
- view scenery (52%)
- driving for pleasure (51%)
- picnicking (32%)
- nature study (30%)



Roadside view: Mt. Ashland from Road 2060.

Seventy-two percent of the visitors go to the area with family and friends. A total of 68 percent of the visitors rated the availability of recreation opportunities in the area as "excellent" or "good".

**Deterrents to Use.** Reasons cited by nonvisitors for not going to the area included:

- "lack of information" (40%)
- "thought the public wasn't permitted in the area" (16%)
- "the area is closed" (7%)

**Future Visitation.** Respondents predicted their future visitation to the area:

Visitors
- 75 percent planned to visit the area with the same frequency as currently
- 16 percent planned to visit the area more often
- 9 percent planned to visit the area less often

Nonvisitors
- 28 percent planned to visit the area

**Future Visitation With Supply Changes.** Changes to recreational supply characteristics were defined as better access, more trails, and more information on the area. With these changes, the survey results predicted:

- 46 percent of visitors and 43 percent of nonvisitors would use the area more frequently
- 7 percent of current visitors would use the area less frequently

**Concern for Management.** Thirty-six respondents, 19 percent of the total, gave unsolicited comments. Most comments dealt with management practices in the study area.

- 16 people recommended some form of closure or restriction for the area.
- 14 people recommended the area be kept open for some type of recreation or education use.

**Conclusions**

There is a high level of awareness of the location of the Watershed. The longer people live in Ashland the more likely they are to know the location of the Watershed. The area is visited by a significant portion of Ashland's residents. While visitors represent most socio-economic groups, they tend to be male, young to middle-aged, have lived in Ashland more than two years and also frequent a variety of recreation settings. Nonvisitors had a notably higher proportion of retirees, elderly, newcomers, and very long term Ashland residents.

Visitation patterns indicate the area fills a need for recreating in a natural forest setting close to the city. Activities with the highest participation are oriented to appreciation of the natural environment. Social groups of friends or families are the most common form of visitation. The area's availability of recreation opportunities received a very high rating by visitors.

The primary reason cited by respondents for not visiting the area is lack of information. This conclusion is interesting in that three-fourths of all respondents indicated they know where the area was located. Evidently knowledge of the area's location does not necessarily equate with having sufficient information to visit the area. Perhaps because of a lack of <u>accurate</u> information, some people felt the area was closed and that public use was not permitted.

Based on the findings (and within the limitations) of this study, it is predicted that there will be a small to moderate increase in visitation to the area. Increases will be due to (a) current visitors using the area more frequently, (b) nonvisitors using the area and (c) Ashland's population growth bringing more potential visitors into the locality.

Fairly significant increases in visitation are predicted if the area had better access, more trails, and if more information on the area is provided. These increases would be from both current and new visitors. There would be more recreation opportunities available and latent demand would be stimulated. A very small minority of current visitors would discontinue using the area if these changes were to occur.

Based on a relatively high percentage of unsolicited comments, many people have a concern for management of the area. One group of comments centered around protection of water quality and the environment. The other grouping of comments showed a desire that the area be kept open for some type of limited use. A common theme ran through most of the comments; people <u>recognize</u> the area is a "<u>fragile</u> place" deserving of care and proper stewardship.

## Implications and Recommendations

The findings and conclusions from this study have important implications for managing the Watershed. Implications and recommendations are grouped by four topic areas:

- Recognition of the Recreation Role
- Awareness and Information
- Future Recreation Use
- Developing Understanding and Communication

**Recognition of the Recreation Role.** It is important to restate that the primary objective for managing the Ashland Watershed is protecting Ashland's water supply. Based on the 1929 Cooperative Agreement, this is as it should be. However, this study has found that the Watershed also plays an important role in providing for Ashland residents' recreation needs. The area provides opportunities for experiencing a natural forest setting close to the city.

Besides the Watershed, there is very little publicly owned undeveloped forest land close to Ashland. Most other undeveloped land in the area is in private ownership and closed to public use.

Because of its proximity to the city, the Watershed has the potential to be managed to fill recreation needs as well as for water supply protection. Examples of this type of management are found in the Federal Republic of Germany. German forests are managed to serve the recreation needs of nearby population centers as well as for watershed and other purposes (Schabel 1985).

The need for providing outdoor recreation areas near to population centers has been recognized by both the Oregon Comprehensive Outdoor Recreation Plan (Oregon 1978) and the Jackson County Comprehensive Plan (Jackson County 1982). The city of Ashland's Comprehensive Plan (City of Ashland 1981) notes that the Watershed is a scenic resource important to the liveability of the city. However, the actual recreation role of the Watershed has not been recognized by current Forest Service management plans for the area. With the exception of the nature trail, recreation has been merely allowed to take place in the Watershed as long as it did not interfere with water quality protection.

> **Recommendation:** The Rogue River National Forest Land Management Plan should recognize and address the Watershed's role of providing close-in recreation for Ashland residents. The recreation role should be consistent with water supply protection, the primary use of the area.

**Awareness and Information.** According to the results of this study, a high proportion of Ashland residents are aware of the location of the Watershed. However, "lack of information" was the principal reason cited for not visiting the area. This finding implies that there is a lack of specific information regarding what opportunities the area has to offer.

The study also indicated that some people did not visit the area because they thought the public was not permitted or the area was closed. (As mentioned previously, the only area closed to the public is Reeder Reservoir and its immediate vicinity.) These findings imply that there is a lack of awareness of the status of public accessibility to the area.

The question of whether to provide more specific information about the area requires careful assessment of potential benefits and risks involved. More information for the elderly may not necessarily result in increases in their visitation. The elderly just may not be able to or want to visit the area.

More information would probably be helpful to newcomers to Ashland. There is a likelihood that provision of more information will increase use of the area. However, the study found that use of the area increases with tenure in Ashland, so newcomers will eventually use the area anyway. Unfortunately, new visitors may or may not be aware of the sensitivity of the area.

It is important to provide information on the proper use of the area to new visitors. To do otherwise would risk environmental damage resulting in pressure for complete closure of the area and exclusion of recreationists.

> **Recommendation:** Develop an education program with the objective of increasing visitors' awareness to the sensitivity of the area. Subject matter could include fire hazards, water quality protection, and soil fragility. The program should be similar to the "No Trace" program used in Wilderness areas and could be done cooperatively with the City. Target current users and newcomers to the city. Emphasize on-site methods such as patrols, field trips, and signs.

**Future Recreation Use.** What about future visitation to the area? The results of the survey predicted visitation will increase even if nothing is done to change the area. Visitation will also increase naturally as Ashland's population grows, creating a larger number of potential recreationists. The presence of more people may discourage vandalism and other illegal users (Waitt). More visitation, if unmanaged, also potentially increases the risk of fire (Rose).

Recreation use must be planned and managed to be compatible with other uses of the area.

> **Recommendation:** Upon completion of the Rogue River National Forest Land Management Plan, develop a new detailed management plan for the Watershed to include direction for recreation. (This could be an update of the 1979 Interim Plan.) The plan should address management and planning for the increased recreation use that would occur naturally.

**Future Use With Supply Changes.**

Is there a desire for more recreation opportunities in the area? The study results indicated current visitors gave the availability of recreation opportunities a high rating. Only 7 percent of nonvisitors cited, "there is nothing to do there" as a reason for nonuse. These results imply that there's really not a strong desire for additional recreation opportunities. However, these expressions are only a reaction to the current situation. What is more important to know is if additional recreation opportunities were available, would people take advantage of them.

It is predicted that changes in supply characteristics of the area will stimulate latent demand. People would be tempted to visit the area because of new trails, better access or more information. There would be more opportunities to participate in recreation activities.

Before embarking on the road to providing more recreation opportunities, managers should be aware of a large flashing "caution" sign. The study found a fairly high level of concern for the potential impacts of increased recreation use on water quality. City of Ashland administrators share this concern (Alsing).

City of Ashland residents have a high stake in the management of the Watershed; both from the standpoint of water production and filling recreation needs. It is very likely that residents would react negatively to any management changes to the area unless they have an opportunity to be involved in those changes.

> **Recommendation:** Provide the opportunity for local citizens and agencies to be involved in any decisions dealing with new development or management changes in the area.
>
> Input should be requested at initial planning stages. Methods could include open houses, field trips, and newsmedia articles.

**Developing Understanding and Communication.** This study should contribute to an understanding of how the Watershed is used for recreation by the people of Ashland. With an awareness of the study conclusions, managers should be better able to resolve conflicts between different interests. Managers should initiate communication between people with different points of view in order to develop the common ground to which all interests can agree.

> **Recommendation:** Forest Service managers should discuss the findings and recommendations from this paper with City of Ashland officials.
>
> **Recommendation:** Develop a consensus group representing all interests to provide input to the Forest Service for managing the Watershed. The purpose of the group would be to discuss issues, serve as a sounding board for new ideas, and provide volunteer work.
>
> The group could be similar to the "Friends of Prescott Park" organization established to assist with management of the City of Medford, Oregon's Prescott Park (Medford 1985).

Ashland has a special resource at its back doorstep. The Watershed is a valuable area that has the potential to fill diverse needs. The key to fulfillment of these needs will be how successful managers are in developing understanding and cooperation between all interests.

Armin Welti, 80, "I love the serenity of this area.
I like to get away from the hubbub of the city."

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## Appendices

Appendix A. Questionnaire

Appendix B. Questionnaire Answers Tabulation

Appendix C. Selected Crosstabulations

## Appendix A
## Questionnaire

DATE _____ TIME _____

ADDRESS _____ INTERVIEWER _____

1. Sex of respondent

   a. male
   b. female

2. How long have you lived in Ashland?

   a. 0-1 year
   b. 2-4 years
   c. 5-9 years
   d. 10-15 years
   e. 16 years or more

3. How many times in the last 12 months have you or members of your household visited the following 3 different types of recreation areas?

| RECREATION AREA | NUMBER OF VISITS None | 1-2 | 3-10 | 11 or more |
|---|---|---|---|---|
| 1. Urban Areas: park, playground, sports field, private facility | a | b | c | d |
| 2. Roaded Non-Urban Areas: forests, mountains, lakes, rivers, rural 1/ | a | b | c | d |
| 3. Wilderness Roadless backcountry areas | a | b | c | d |

1/ Includes: Camping, picnicking, hunting, fishing, sightseeing areas

4. Do you know where the Ashland Watershed area is?

   a. yes
   b. no

---

For both "yes" or "no" to preceding question:
Interviewer explain where the Ashland Watershed is. Show maps. "For purposes of this study Mt. Ashland Ski Area is not included in the area. The next group of questions deal with the Ashland Watershed."

5. Do you or members of your household ever visit the Ashland Watershed?

   a. yes (go to #6)
   b. no (go to #11)
   c. don't know (go to #12)

6. (Yes to #5). How many times in the last 12 months have you or members of your household visited the Ashland Watershed?

   a. 1-2 times
   b. 3-4 times
   c. 5-10 times
   d. 11 or more times

7. Which activities from this list have you or members of your household participated in when visiting the area? (Read list and have respondent say yes if they have done the activity.)

   a. Christmas tree cutting
   b. horseback riding
   c. jogging
   d. hiking, walking
   e. driving for pleasure
   f. nature study
   g. hunting
   h. motorcycling
   i. pick mushrooms or berries
   j. mountain biking
   k. collect fire wood
   l. cross-country skiing or snowshoe
   m. collect rocks
   n. drink alcoholic beverage
   o. four-wheel driving off-road
   p. play in snow
   q. target shoot
   r. view scenery
   s. picnic
   t. camp
   u. show area to visitors
   v. other, please specify: _____
   w. don't know

8. When you visit the Ashland Watershed do you generally go:

   a. with friends?
   b. with family?
   c. alone?

9. In the future do you plan to visit the Ashland Watershed:

   a. more than in the past?
   b. about the same as presently?
   c. less than in the past

10. How would you rate the availability of outdoor recreation opportunities in the Ashland Watershed?

    a. excellent
    b. good
    c. fair
    d. poor
    e. don't know

    Go to #13!

11. (No to #5) What are reasons you haven't visited the area? (Read list and have respondent say yes if item applies)

    a. lack of time
    b. don't like the outdoors
    c. the area is too far away
    d. lack of information
    e. rather go to other areas
    f. lack of transportation
    g. there is nothing to do there
    h. thought the public wasn't permitted in the area
    i. concern for water quality
    j. the area is closed
    k. personal health reasons
    l. other, please specify: _____
    m. don't know

12 (No to #5) In the future do you plan to visit the Ashland Watershed?

    a. yes
    b. no
    c. don't know

13. If the Ashland Watershed had better access and more trails, and there was more information on the area, would you use the area:

    a. same as now
    b. more frequently
    c. less frequently
    d. still wouldn't use the area
    e. don't know

"Would you please tell me a little bit about yourself? Please keep in mind that your answers are voluntary and confidential."

14. What age category are you in?

    a. under 18
    b. 18-24
    c. 25-34
    d. 35-44
    e. 45-54
    f. 55-64
    g. 65 and over

15. What is the highest level of education you have completed.

    a. junior high school or less
    b. completed high school
    c. some college
    d. vocational/technical
    e. college graduate
    f. post graduate

16. Are you a student?

    a. yes
    b. no

17. Which category comes closest to your total annual household income before taxes?

    a. under 5,999
    b. 6,000 - 9,999
    c. 10,000 - 14,999
    d. 15,000 - 24,999
    e. 25,000 - 49,999
    f. 50,000 or more

18. What is your occupation; the <u>type</u> of work you do?

    _____

19. Are you now retired:

    a. yes
    b. no

20. How many household members are.....

    a. under 18 years _____
    b. 19 - 34 years _____
    c. 35 - 64 years _____
    d. 65 and over _____

Other Comments: (don't solicit, but write down if offered)

## Appendix B
## Questionnaire Answers Tabulation

| Question No. | Number of Respondents | % |
|---|---|---|
| 1. a. | 99 | 53.5 |
| b. | 86 | 46.5 |
| both | 9 | |
| 2. a. | 28 | 14.5 |
| b. | 38 | 19.7 |
| c. | 41 | 21.2 |
| d. | 35 | 18.1 |
| e. | 51 | 26.4 |
| 3.1 a. | 23 | 11.9 |
| b. | 20 | 10.3 |
| c. | 49 | 25.3 |
| d. | 102 | 52.6 |
| 3.2 a. | 42 | 21.8 |
| b. | 22 | 11.4 |
| c. | 65 | 33.7 |
| d. | 64 | 33.2 |
| 3.3 a. | 114 | 59.4 |
| b. | 39 | 20.3 |
| c. | 26 | 13.5 |
| d. | 13 | 6.8 |
| 4. a. | 142 | 74.0 |
| b. | 50 | 26.0 |
| 5. a. | 79 | 41.1 |
| b. | 103 | 53.6 |
| c. | 10 | 5.2 |
| 6. a. | 32 | 40.5 |
| b. | 14 | 17.7 |
| c. | 12 | 15.2 |
| d. | 15 | 19.0 |
| e. (none) | 6 | 7.6 |
| 7. a. | 14 | 17.7 |
| b. | 2 | 2.5 |
| c. | 14 | 17.7 |
| d. | 49 | 62.0 |
| e. | 40 | 50.6 |
| f. | 24 | 30.4 |
| g. | 8 | 10.1 |
| h. | 4 | 5.1 |
| i. | 10 | 12.7 |
| j. | 5 | 6.3 |
| k. | 6 | 7.6 |
| l. | 15 | 19.0 |

| Question No. | Number of Respondents | % |
|---|---|---|
| 7. m. | 7 | 8.9 |
| n. | 1 | 1.3 |
| o. | 5 | 6.3 |
| p. | 21 | 26.6 |
| q. | 4 | 5.1 |
| r. | 41 | 51.9 |
| s. | 25 | 31.6 |
| t. | 5 | 6.3 |
| u. | 14 | 17.7 |
| v. | 9 | 11.4 |
| w. | 0 | 0.0 |
| 8. a. | 19 | 24.4 |
| b. | 25 | 32.1 |
| c. | 10 | 12.8 |
| d. | 12 | 15.4 |
| e. | 4 | 5.1 |
| f. | 1 | 1.3 |
| g. | 7 | 9.0 |
| 9. a. | 12 | 15.6 |
| b. | 58 | 75.3 |
| c. | 7 | 9.1 |
| 10. a. | 19 | 24.7 |
| b. | 33 | 42.9 |
| c. | 12 | 15.6 |
| d. | 6 | 7.8 |
| e. | 7 | 9.1 |
| 11. a. | 17 | 16.5 |
| b. | 2 | 1.9 |
| c. | 1 | 1.0 |
| d. | 41 | 39.8 |
| e. | 17 | 16.5 |
| f. | 4 | 3.9 |
| g. | 7 | 6.8 |
| h. | 16 | 15.5 |
| i. | 3 | 2.9 |
| j. | 7 | 6.8 |
| k. | 11 | 10.7 |
| l. | 11 | 10.7 |
| m. | 9 | 8.7 |
| 12 a. | 31 | 28.2 |
| b. | 49 | 44.5 |
| c. | 30 | 27.3 |
| 13 a. | 57 | 30.3 |
| b. | 81 | 43.1 |
| c. | 7 | 3.7 |
| d. | 16 | 8.5 |
| e. | 27 | 14.4 |
| 14 a. | 5 | 2.6 |
| b. | 16 | 8.5 |
| c. | 49 | 25.9 |

**Questionnaire Answers Tabulation** (continued)

| Question No. | | Number of Respondents | % |
|---|---|---|---|
| 14 | d. | 55 | 29.1 |
| | e. | 19 | 10.1 |
| | f. | 15 | 7.9 |
| | g | 30 | 15.9 |
| 15 | a. | 11 | 5.8 |
| | b. | 30 | 15.8 |
| | c. | 70 | 36.8 |
| | d. | 10 | 5.3 |
| | e. | 39 | 20.5 |
| | f. | 30 | 15.8 |
| 16 | a. | 35 | 18.4 |
| | b. | 155 | 81.6 |
| 17 | a. | 20 | 13.6 |
| | b. | 20 | 13.6 |
| | c. | 21 | 14.3 |
| | d. | 41 | 27.9 |
| | e. | 36 | 24.5 |
| | f. | 9 | 6.1 |
| 18 | a. | 62 | 34.6 |
| | b. | 25 | 14.0 |
| | c. | 20 | 11.2 |
| | d. | 5 | 2.8 |
| | e. | 8 | 4.5 |
| | f. | 8 | 4.5 |
| | g. 1/ | 51 | 28.5 |
| 19 | a. | 41 | 21.5 |
| | b. | 150 | 78.5 |
| 20 | a. | 141 | 2/ |
| | b. | 135 | |
| | c. | 149 | |
| | d. | 60 | |

1/ g = Total of retired, unemployed, student, housewife

2/ percentages not calculated due to format of question

## Appendix C
## Selected Crosstabulations

Table C1. Awareness of Ashland Watershed by Tenure in Ashland 1/

(row percentages)

| Know Where Ashland Watershed Is | Years Lived in Ashland: 0-1 | 2-4 | 5-9 | 10-15 | 16 or more | |
|---|---|---|---|---|---|---|
| Yes | 5.7 | 16.3 | 22.7 | 22.0 | 33.3 | n=141 |
| No | 40.0 | 28.0 | 16.0 | 8.0 | 8.0 | n=50 |

$X^2 = 45.87$ d.f. = 4 $p \leq .0001$
Cramers V = .49

1/ Crosstabulation Q.4 x Q.2

Table C2. Visitors and Nonvisitors by Sex 1/

(row percentages)

| Visit the Watershed? | Male | Female | |
|---|---|---|---|
| Yes | 61.3 | 38.7 | n=75 |
| No | 50.0 | 50.0 | n=98 |
| Don't know | 30.0 | 70.0 | n=10 |

$X^2 = 4.55$ d.f. = 2 $p \leq .1027$
Cramers V = .16
1/ Crosstabulation of Q.5 X Q.1

Table C3. Visitors and Nonvisitors by Tenure in Ashland 1/

(row percentages)

| Visit the Watershed? | Years Lived in Ashland: 0-1 | 2-4 | 5-9 | 10-15 | 16 or more | |
|---|---|---|---|---|---|---|
| Yes | 2.6 | 23.1 | 29.5 | 23.1 | 21.8 | n=78 |
| No | 20.4 | 16.5 | 15.5 | 15.5 | 32.0 | n=103 |
| Don't Know | 50.0 | 20.0 | 20.0 | .0 | 10.0 | n=10 |

$X^2 = 29.78$ d.f. = 8 $p \leq .0002$
Cramers V = .28

1/ Crosstabulation of Q.5 x Q.2

Table C4. Future Use of the Study Area with Changes in Supply Characteristics 1/

| Use Frequency | Study Area Visitors | Study Area Nonvisitors | Don't Know If Use Area |
|---|---|---|---|
| Same as now | 44.7 | 21.8 | 10.0 |
| More frequently | 46.1 | 43.6 | 20.0 |
| Less frequently | 6.6 | 2.0 | 0.0 |
| Still wouldn't use the area | 1.3 | 13.9 | 10.0 |
| Don't know | 1.3 | 18.8 | 60.0 |
| | n=76 | n=101 | n=10 |

$X^2 = 46.88$ d.f. = 8 $p \leq .0001$
Cramers V = .35

1/ Changes would include "better access and more trails, and there was more information on the area"; crosstabulation Q.5 x Q.13

Table C5. Visitors and Nonvisitors by Age 1/

(row percentages)

| Visit the Watershed? | Under 18 | 18-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65 & over | |
|---|---|---|---|---|---|---|---|---|
| Yes | 5.2 | 7.8 | 24.7 | 36.4 | 10.4 | 7.8 | 7.8 | n=77 |
| No | 1.0 | 8.9 | 23.8 | 24.8 | 8.9 | 8.9 | 23.8 | n=101 |
| Don't Know | .0 | .0 | 60.0 | 20.0 | 20.0 | .0 | .0 | n=10 |

$X^2 = 21.80$ d.f. = 12 $p \leq .0399$
Cramers V = .24

1/ Crosstabulation of Q.5 x Q.14

Table C6. Visitors and Nonvisitors by Student Status 1/

(row percentages)

| Visit the Watershed? | Are you a student? Yes | No | |
|---|---|---|---|
| Yes | 20.3 | 79.7 | n=79 |
| No | 16.0 | 84.0 | n=100 |
| Don't Know | 30.0 | 70.0 | n=10 |

$X^2$ = 1.45 d.f. = 2 p $\leq$ .4840
Cramers V = .09

1/ Crosstabulation of Q.5 x Q.16

Table C7. Visitors and Nonvisitors by Retired Status 1/

(row percentages)

| Visit the Watershed? | Are you retired? Yes | No | |
|---|---|---|---|
| Yes | 11.5 | 88.8 | n=78 |
| No | 30.4 | 69.6 | n=102 |
| Don't Know | 10.0 | 90.0 | n=10 |

$X^2$ = 10.12 d.f = 2 p $\leq$ .0063
Cramer's V = .23

1/ Crosstabulation of Q.5 x Q.19

Table C8. Visitors and Nonvisitors by Awareness of Watershed Location 1/

(row percentages)

| Visit the Watershed? | Know Where Watershed Is? Yes | No | |
|---|---|---|---|
| Yes | 96.2 | 3.8 | n=78 |
| No | 63.1 | 36.9 | n=103 |
| Don't Know | 11.1 | 88.9 | n=9 |

$X^2$ = 44.96 d.f = 2 p $\leq$ .0001
Cramer's V = .49

1/ Crosstabulation of Q.5 x Q.4